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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/671,944

09/29/2003

Helmut Hans

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02/10/2005

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EXAMINER

NGUYEN, TRAN N

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 02/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/671,944

Applicant(s)

HANS, HELMUT

Examiner

Tran N. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 13 January 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-3,8,9,11 and 14-22 is/are pending in the application.
- 4a) Of the above claim(s) 11, 20-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-3,8,9 and 14-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) 1-3,8,9,11 and 14-22 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Election/Restriction

In response to the restriction requirement, the applicant has selected group (I) containing **Claims 1-3, 8-9, 14-19** are drawn to a motor structure classified in class 310, subclass 216. The election is with traverse for the reason that it is not a serious burden o the examiner to search and examine all the pending claims.

In response to the applicant's argument, group I, the structure claimed invention, and group II, the method of making claimed invention, these two groups of claims are independent and distinct from one another in term of the process of making and the structure of the device.

The fields of search for a method of making a device and for a structure of the device, i.e., the product, are not coextensive, and determinations of patentability for claims of a method of making a device and claims of the device's structure are different.

In the determinations of patentability for claims of a method of making a device, the fabrication process includes its sequential order of fabricating steps and/or tools used in these steps of forming the device are considered significant.

On the contrary, in the determinations of patentability for claims of the device's structure the limitations of device's elements and their structural relationships as well as their functional/operational relationships are considered significant.

In other words, in the structure claimed invention, or in product-by-process structural features of a device, the method of forming the device is not germane to the issue of patentability of the device itself. (*In re Thorpe*, 227 USPQ 964, 966.)

Therefore, The fields of search for a method of making a device and for a structure of the device, i.e., the product, are not coextensive and the consideration factors for patentabilities are different and independent. This is the reason why there are two different and separate

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classifications for the method of forming a motor (class 29) and the structure of the motor (class 310).

Thus, the restriction, which is set forth in the previous Office Action, is deemed to be proper and hereby made FINAL.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1-3, 8, 14 and 19** are rejected under 35 U.S.C. 102(b) as being fully anticipated by **Schaeffer (USP 4,315,171)**.

Schaeffer discloses (figs 2, 4, 5-8, 16-19) a stator assembly (32) for use with a multi-phase inner rotor motor, comprising a circular ring shaped stator yoke (34, 76) having an inner periphery and a number of pole shoes extending radially inward from the inner periphery of the stator yoke (figs 2, 4, 16), wherein the stator yoke includes a plurality of stator sections, with each stator section encompassing all the pole shoes of one phase (figs 8-9).

In other words, **Schaeffer** shows in figs 4-9, particularly figs 8-9, three phases stator assembly with the following:

1S-1F, first phase winding for first stator section encompassing all the pole shoes of first phase;

2S-2F, second phase winding for first stator section encompassing all the pole shoes of second phase;

3S-3F, third phase winding for first stator section encompassing all the pole shoes of third phase;

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each stator sections are interleaved with each other, i.e., each stator sections alternately positioned adjacent one another.

wherein

each of the plurality of stator sections defines a part of the stator yoke. In other words, the stator is divided into plural sections for multiphase, wherein these stator-phase sections define the stator core with a ring-shaped outer peripheral stator yoke region;

wherein

the pole shoes of each stator section extend along substantially an axial length of the stator yoke;

wherein the stator assembly is concentric with an axis of the inner rotor;

and, inherently the arrangement of the pole shoes of each stator section are offset at an angle with respect to each other in order to define a winding slot therebetween the poles.

3. **Claim 9** is rejected under 35 U.S.C. 102(b) as being fully anticipated by **Takehara et al (USP 5,804,896)**.

Takahara discloses (figs 2-4 a stator assembly (24) for use with an inner rotor motor, comprising a circular ring shaped stator yoke (24) having an inner periphery and a number of pole shoes (24c) extending radially inward from the inner periphery of the stator yoke, wherein the stator yoke includes a plurality of stator sections, with each stator section encompassing all the pole shoes of one phase (figs 2, and 4).

4. **Claims 1-3, 8, 14 and 19** are rejected under 35 U.S.C. 102(b) as being fully anticipated by **Kometani et al (USP 6,166,471)**.

Kometani discloses a stator assembly () for use with a multi-phase inner rotor motor, comprising a circular ring shaped stator yoke () having an inner periphery and a number of pole shoes extending radially inward from the inner periphery of the stator yoke (figs 2, 4, 16), wherein the stator yoke includes a plurality of stator sections, with each stator section encompassing all the pole shoes of one phase (figs 8-9).

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In other words, Schaeffer shows in figs 4-9, particularly figs 8-9, three phases stator assembly with the following:

W-phase winding for first stator section encompassing all the pole shoes of W-phase;
V-phase winding for first stator section encompassing all the pole shoes of V-phase;
U-phase winding for first stator section encompassing all the pole shoes of U-phase;
each stator sections are interleaved with each other, i.e., each stator sections alternately positioned adjacent one another.

wherein

each of the plurality of stator sections defines a part of the stator yoke. In other words, the stator is divided into plural sections for multiphase, wherein these stator-phase sections define the stator core with a ring-shaped outer peripheral stator yoke region;

wherein

the pole shoes of each stator section extend along substantially an axial length of the stator yoke;

wherein the stator assembly is concentric with an axis of the inner rotor;

and, inherently the arrangement of the pole shoes of each stator section are offset at an angle with respect to each other in order to define a winding slot therebetween the poles.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

- 5. Claim 17** is rejected under 35 U.S.C. 103(a) as being unpatentable over either **Schaeffer** or **Kometani**, as applied in the rejections against the base claim, and in view of **Tomita** et al (US 6140728).

Schaeffer or **Kometani** individually discloses the claimed invention, except for the added limitations of claim 17.

Tomita, however, teaches a stator assembly having separable poles shoes (52a) being adherently bonded to the stator section (52c) for the purpose of facilitating the winding of the stator as well as repair process since each individual pole shoe is removable from the stator assembly.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the stator assembly by configuring the pole shoes as individual elements that adherently bonded to the stator section, as taught by **Tomita**. Doing so would enable facilitating the winding process for the pole shoes and removability each individual pole shoe for repair.

- 6. Claim 18** is rejected under 35 U.S.C. 103(a) as being unpatentable over either **Schaeffer** or **Kometani**, as applied in the rejections against the base claim, and in view of **Hirano** et al (US 5729072).

Schaeffer or **Kometani** individually discloses the claimed invention, except for the added limitations of claim 17.

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Hirano, however, teaches a stator assembly having separable stator section (11) being adherently bonded to other stator sections for the purpose of enable high density aligning winding to be carried out at an outside place and effectively space saving for winding end portion, and enable divided construction of the stator assembly of large sized core with produced with a small sized press equipment (Summary Section).

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the stator assembly by configuring the stator section as individual segments being bonded together to form a stator assembly, as taught by Hirano. Doing so would enable facilitating the manufacturing process of large size core with small size press equipment, and facilitating the winding process for the pole shoes and effectively save space thereof.

Allowable Subject Matter

Claims 15-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tran N. Nguyen whose telephone number is (571) 272-2030. The examiner can normally be reached on M-F 7:00AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571)-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tran N. Nguyen

Primary Examiner

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